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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/697,645	10/27/2000	Russell L. Strothmann	023895/257046	4471

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EXAMINER

CAPUTO, LISA M

ART UNIT

PAPER NUMBER

2876

DATE MAILED: 02/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/697,645	<b>Applicant(s)</b> STROTHMANN ET AL.	
	<b>Examiner</b> Lisa M Caputo	<b>Art Unit</b> 2876	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 22 November 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-15,17-28 and 30-39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-10, 14-15, 17-23, 27-28, and 30-36 is/are rejected.
- 7) ☒ Claim(s) 11-13,24-26 and 37-39 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Amendment*

1. Receipt is acknowledged of the amendment filed 22 November 2004.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1-2, 4-10, 14-15, 17-23, 27-28, and 30-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over DeMarcken et al. (U.S. Patent No. 6,418,413, from hereinafter "DeMarcken") in view of Waytena et al. (U.S. Patent No. 5,978,770, from hereinafter "Waytena").

DeMarcken teaches a method and apparatus for providing availability of airline seats. Regarding claims 1, 14, and 27, DeMarcken teaches a computer implemented method (i.e. computer program product, method, and system) for predicting travel resource availability that comprises the steps of receiving a candidate itinerary including current availability data (the scheduler process 16 produces a set of flights from a travel request (as recited in claims 2, 15, and 28 of the instant application)) and determining and outputting a probability that the candidate itinerary is available (the look-up and retrieval process 94 can return a probability estimate of availability of a seat conforming to the parameters of the query; also, the threshold level predictor 140 can be used by the look-up and retrieval process 94 to determine if a stored query is stale). In addition, DeMarcken teaches that the step of determining a probability comprises the step of calculating the probability based upon historical availability information (this table 150 could be populated by historical information about how often booking codes were available in the past for the airline/booking-code/days-before-departure). In addition, DeMarcken teaches the use of other parameters such as fare rules, lower-priced itineraries, flight departure dates, and unavailable itinerary to available itinerary status change in order to determine an itinerary and its probability. Further, DeMarcken teaches that the availability predictor can determine the availability of seats on a particular flight of a particular airline, allowing for a prediction of availability in the future flights, not just the current availability (see Figures 1-8, col 3, line 40 to col 8 line 26, especially col 3, lines 40-60; col 7 line 52 to col 8 line 26; and col 7-9, especially col 8, lines 43-65 and col 9, lines 27-40).

Regarding claims 1, 14, and 27, although DeMarcken does teach that a prediction is made on availability and whether that prediction is stale, DeMarcken fails to disclose that the prediction takes into account what will remain available for booking a period of time in the future.

Waytena teaches a system to assign and manage patron reservations. Waytena discloses that each attraction computer 101 maintains information describing the associated attraction, including general static information such as the attraction's capacity, throughput, description of the attraction, height and weight requirements for patrons, geographic location, hours of operation, and the like. In addition, attraction computer 101 maintains information describing the current state and reservation status of the attraction, as will be described more fully below. In one embodiment of the present invention, each attraction computer 101 is associated with a physical queue monitor 103 which monitors the current state of the physical queue for the corresponding attraction, wherein patrons physically line up and wait for admission to the attraction. In one embodiment, monitor 103 is implemented using a series of photoelectric cells to determine the physical position of the end of the line in order to estimate the number of people in the physical queue. In another embodiment, monitor 103 is implemented using a turnstile to count the number of patrons entering the physical queue. In yet another embodiment, monitor 103 is implemented by manually counting or estimating the number of people in the line and providing this information as an input to attraction computer 101. By keeping track of how many people are in the physical queue for the attraction, attraction computer 101 is able to more accurately

estimate current and future availability of the attraction for purposes of making electronic reservations (see Figure 1, col 5, lines 32-58). Further, Waytena teaches that a PCD receives user input from the patron requesting a reservation for a particular attraction. The reservation is filtered by the PCD to determine its validity. If the request is valid, it is transmitted to the corresponding attraction computer via the wireless network. The attraction computer processes the incoming reservation request to determine whether and when the reservation can be accommodated. A proposed reservation time is provisionally stored in a virtual queue and transmitted back to the PCD for confirmation or rejection by the patron. If the patron elects to confirm the proposed reservation time, the PCD transmits a confirmation message to the attraction computer which confirms the reservation in the virtual queue. If the patron rejects the reservation or does not confirm it within a predetermined time period, the reservation is removed from the virtual queue and the proposed reservation time is released so that it may be made available to other patrons (see col 3, lines 10-28). Hence, Waytena indeed teaches that a prediction is made that the candidate's itinerary (i.e. reservation will remain available for booking for a period of time in the future, which can be a minute, a day, or a month, etc.

In view of the teaching of Waytena, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ a system that is able to predict a future availability of a patron reservation (see col 4, lines 58-67), such as in an airline or attraction environment, because the very nature of predicting something is done in order to provide a patron with accurate information for the future, not just the

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current time. If a traveler does not know his/her plans ahead of time, by using a reliable predictor for the future, he/she will be able to make an informed decision on when to travel. It is appropriate to combine DeMarcken with Waytena because both references teach systems that allow for the prediction of availability for patron reservations.

Regarding claims 4-7, 17-20, and 30-33, DeMarcken teaches that the step of determining a probability comprises the step of calculating the probability based upon historical availability information (this table 150 could be populated by historical information about how often booking codes were available in the past for the airline/booking-code/days-before-departure). In addition, DeMarcken teaches the use of other parameters such as fare rules, lower-priced itineraries, flight departure dates, and unavailable itinerary to available itinerary status change in order to determine an itinerary and its probability (see Figure 8, col 7-9, especially col 8, lines 43-65 and col 9, lines 27-40).

Regarding claims 8, 21, and 34, DeMarcken teaches a computer implemented method (i.e. computer program product, method, and system) for increasing reliability of booking airline travel itineraries comprising the steps of obtaining a candidate itinerary including availability information (the scheduler process 16 produces a set of flights from a travel request) and determining whether the availability information should be updated based on the candidate itinerary and a situation table (wherein the situation table is created with sample itineraries and historical availability information as recited in claims 9-10, 22-23, and 35-36 of the instant application) (the threshold predictor 140 could be a table similar to FIG. 8 that includes for every airline/booking-code/days-before-departure

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entry, a number of hours after which a database answer will be considered stale. This table could be trained on historical data by recording for each airline/booking-code/days-before-departure combination the average maximum number of hours prior to a query that other queries returned the same answer. For example, if in the past on American 3 days before departure in booking code Q, query answers remained the same for an average of 8 hours, then 8 hours would be stored in the table, and database queries for AA/Q/3-days-before-departure would be considered stale if they were more than 8 hours old) (see Figures 1-8, col 3 line 41 to col 8 line 16).

Regarding claims 8, 21, and 34, DeMarcken does not disclose a situation table that uses information from two data sources. Even though DeMarcken does indeed teach the use of a situation table that includes the number of hours after which an entry corresponding to airline/booking-code/days-before-departure entry becomes stale (see Figure 8, col 8, lines 3-65), DeMarcken fails to teach that availability information is obtained from two data sources, that a difference between the availability information is determined, and that an indication (based on the difference calculated) that the availability information should be updated prior to booking is stored in the situation table. Even further, DeMarcken does not teach the specific limitations of adding the indication to the table only when the itinerary is not rendered irrelevant by the fare rules, or only when a difference between the availability information from the two sources exceeds an error threshold.

Waytena teaches a system to assign and manage patron reservations. Waytena discloses that each attraction computer 101 maintains information describing the



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associated attraction, including general static information such as the attraction's capacity, throughput, description of the attraction, height and weight requirements for patrons, geographic location, hours of operation, and the like. In addition, attraction computer 101 maintains information describing the current state and reservation status of the attraction, as will be described more fully below. In one embodiment of the present invention, each attraction computer 101 is associated with a physical queue monitor 103 which monitors the current state of the physical queue for the corresponding attraction, wherein patrons physically line up and wait for admission to the attraction. In one embodiment, monitor 103 is implemented using a series of photoelectric cells to determine the physical position of the end of the line in order to estimate the number of people in the physical queue. In another embodiment, monitor 103 is implemented using a turnstile to count the number of patrons entering the physical queue. In yet another embodiment, monitor 103 is implemented by manually counting or estimating the number of people in the line and providing this information as an input to attraction computer 101. By keeping track of how many people are in the physical queue for the attraction, attraction computer 101 is able to more accurately estimate current and future availability of the attraction for purposes of making electronic reservations. Further, central attraction control interface 104 is implemented in one embodiment as a conventional centralized computer system allowing access to all attraction computers 101 by park staff. Interface 104 facilitates monitoring of virtual and physical queues for all attractions, as well as reservation schedules and other information describing the state of the attractions. Interface 104 also allows park staff to

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manually change the data describing any of the individual attractions, such throughput estimates, hours of operation, reservation schedules, attraction information, and any other information stored in attraction computers 101, as needed. This may be useful, for example, when a particular attraction is functioning at lower than usual capacity due to some unforeseen factors, or when the hours of operation of an attraction are changed (see Figure 1, col 5, lines 32-58 and col 6, lines 16-53). Hence, Waytena teaches that a multitude of data sources can be used to obtain data.

In view of the teaching of Waytena, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ two data sources to obtain and compare/update information because when using two data sources, more comprehensive information is able to be obtained, hence a better result is able to be found, which in turn allows the patron to be able to make better decisions. In addition, it is easy to be able to modify DeMarcken with Waytena because the multitude of information from the sources provided in Waytena is able to be stored within the same situation tables and databases in DeMarcken. This information is comparable because both systems deal with patrons and reservation predictability.

***Allowable Subject Matter***

4. Claims 11-13, 24-26, and 37-39 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. The following is a statement of reasons for the indication of allowable subject matter:

Examiner appreciates applicant's argument that DeMarcken as modified by Waytena does not disclose the limitations of claims 11-13, 24-26, and 37-39. Even though DeMarcken/Waytena does indeed teach the use of a two data sources, DeMarcken/Waytena fails to teach that a difference between the availability information is determined, and that an indication (based on the difference calculated) that the availability information should be updated prior to booking is stored in the situation table. Even further, DeMarcken/Waytena does not teach the specific limitations of adding the indication to the table only when the itinerary is not rendered irrelevant by the fare rules, or only when a difference between the availability information from the two sources exceeds an error threshold.

#### ***Response to Arguments***

6. Applicant's arguments filed 22 November 2004 have been fully considered but they are not persuasive.

7. In response to applicant's arguments that DeMarcken and Waytena cannot properly be combined, examiner respectfully disagrees and submits that they can be properly combined since both references are teaching systems that are utilized the help consumers make reservations, whether it be for travel or amusement. Although Waytena does not specifically disclose travel reservations as its intended use in the specification, it is stated in column 4 that other environments for patron reservations are possible (i.e. travel reservations). Hence, the system of Waytena can improve upon the system of DeMarcken by allowing for a better prediction of further availability.

In response to applicant's argument that the motivation to combine DeMarcken and Waytena is lacking, examiner respectfully disagrees and submits that although the references are not claiming the same genre of reservations, both references are indeed predicting the availability of seats, whether for travel or amusement rides. DeMarcken is teaching the probability of availability of seats, and how stale the query, which is in some sorts a prediction for the future. However, with the combination of Waytena, who teaches a prediction of an available seat for "a period of time in the future," the prediction is made more solid. Hence, Waytena (see col 3) is making up for the deficiency of DeMarcken (i.e. that a seat will be available in the future). Further, when Waytena discloses that the computer may provisionally store a reservation time in the virtual queue while the proposed time is forwarded to a patron's PCD for confirmation or rejection, this is characteristic of determining an availability for the broad "period of time in the future." It is respectfully submitted that Waytena does not have to address actually providing a probability because DeMarcken provides the probability and Waytena is modifying DeMarcken so that more information can be taken in account to make a reservation/probability of reservation.

In response to applicant's argument that Waytena does not base its decision on at least two data sources, examiner respectfully disagrees and submits that Waytena does indeed teach two data sources. It is respectfully submitted that the types of data sources (i.e. AVS and DCA) are not specifically recited in the claims. In addition, applicants argue that Waytena does not provide insight into the availability of a

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candidate itinerary. Examiner submits that Waytena does indeed include information about the itinerary of the amusement park user (i.e. schedule for the attractions).

Examiner appreciates Applicant's arguments, see page 17, filed 22 November 2004, with respect to claims 11-13, 24-26, and 37-39 and has indicated these claims as having allowable subject matter and they would be allowable if written in independent form (see above).

### **Conclusion**

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Lisa M. Caputo** whose telephone number is **(571) 272-2388**. The examiner can normally be reached between the hours of 8:30AM to 5:00PM Monday through Friday. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael G. Lee can be reached at **(571) 272-2398**. The fax phone number for this Group is (703) 872-9306.

Communications via Internet e-mail regarding this application, other than those under 35 U.S.C. 132 or which otherwise require a signature, may be used by the applicant and should be addressed to [[lisa.caputo@uspto.gov](mailto:lisa.caputo@uspto.gov)].

*All Internet e-mail communications will be made of record in the application file. PTO employees do not engage in Internet communications where there exists a possibility that sensitive information could be identified or exchanged unless the record includes a properly signed express waiver of the confidentiality requirements of 35 U.S.C. 122. This is more clearly set forth in the Interim Internet Usage Policy published in the Official Gazette of the Patent and Trademark on February 25, 1997 at 1195 OG 89.*

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
LMC

February 4, 2005

  
**DIANE I. LEE**  
**PRIMARY EXAMINER**